

REMARKS

Claims 1-34 are pending in the present application. Claims 8, 9, 13, 14, 19, 26-30 and 34 have been amended to correct minor grammatical and antecedent basis problems, not for any substantive reason relating to patentability. Claims 20-24 have been canceled as being directed to a separate invention. The Examiner has indicated that claim 13 would be allowable if rewritten to include all of the limitations of the claim from which it depends. Applicant reserves the right to file a divisional application to prosecute the canceled claims.

Applicant respectfully requests reconsideration of the application in view of the foregoing amendments and the remarks appearing below.

Affirmation of Election

Applicant hereby affirms the election of Invention I made by Mr. Larry Meier during a telephone conversation on October 12, 2005. Claims 1-19 and 25-34 are directed to Invention I.

Rejection Under 35 U.S.C. § 103

The Examiner has rejected claims 1-12, 14-19 and 25-34 under 35 U.S.C. § 103 as being obvious in view of U.S. Patent No. 4,756,555 to Bachmann and U.S. Patent No. 5,213,289 to Barresi, stating that Bachmann discloses a winged device containing all of the limitations of these claims except for a ram-air canopy. The Examiner then asserts that Barresi discloses a ram-air canopy and further asserts that it would have been obvious to a person having ordinary skill in the art at the time of the invention to use the Barresi ram-air canopy in Bachmann's apparatus such that the wing device of the claims is obvious. Applicant respectfully disagrees.

Bachmann discloses a winged apparatus for skiers. The apparatus includes two wing assemblies (38, 40) each having a longitudinal axis and attached to a harness means (32) so as to be pivotable only about a pivot axis substantially parallel to the longitudinal axis. Each wing assembly includes a flexible wing panel assembly (34, 36) that, when deployed, is stretched along the length of a corresponding respective ski pole shaft (116, 116a) of a ski pole assembly (28, 30). Each ski pole assembly has a hand grip (118, 118a) on one end that serves as a handle when that wing assembly functions as a ski pole and serves as a means for attaching the wing assembly to the harness means when the wing assembly functions as a wing. A cross-member, or body (122, 122a), is rigidly attached to one end of each ski pole shaft adjacent the

ski pole hand grip and includes an additional a handle means (124, 124a) for use in controlling the angle of attack of the wing assembly when it functions as a wing.

Barresi discloses a framed airfoil kite that includes a ram-air envelope (1) and four control lines (64, 65, 66, 67) attached to corresponding respective corners of the ram-air envelope.

Turning to the rejected independent claims, each of independent claims 1 and 14 requires at least the following limitations that are neither explicitly disclosed nor even suggested by either of the Bachmann and Barresi patents:

1. at least one wing control handle positioned between the first and second ends of each wing;
2. a flexible strap proximate the first end of each wing; and
3. attachment means on each of the wings and on each of the first and second shoulder straps of the user harness for attaching a corresponding respective one of the flexible straps.

Regarding item 1, clearly neither Bachmann nor Barresi disclose or suggest a wing control handle connected to a ram-air canopy and positioned between the first and second end of each wing. Bachmann does disclose a handle means (124, 124a) on each wing assembly. However, the handle means is not positioned between the first and second ends of the respective wing. As best seen in FIG. 25 of the Bachmann patent, each handle means (124, 124a) is located completely outside of the span of the corresponding wing, i.e., wing panel assembly (34, 36). More particularly, each handle means (124, 124a) is positioned between one of the wing panel assemblies (34, 36) and the user. Indeed, each handle means (124, 124a) could not reasonably be positioned between the ends of the respective wing panel assembly because it would interfere with the functioning of that wing panel assembly.

Applicant recognizes that in asserting that Bachmann's handle means are located between the ends of the respective wings the Examiner may be taking the position that each "wing" of the Bachmann apparatus is the entire wing assembly extending from the butt end of the corresponding ski pole hand grip (118, 118a) to the tip portion (120, 120a) of the respective ski pole assembly (28, 30). However, this position is not proper. This is so because the ordinary and customary meaning of the term "wing" as used in claim 1 is "airfoil." Clearly, the airfoils (wings) of the Bachmann device are the wing panel assemblies (34, 36), not the entire wing

assemblies (38, 40) that include the bodies (122, 122a) and their respective handle means (124, 124a). This construction is further supported by the language of claims 1 and 14 themselves which describe the wing as "spanning between" a first end and a second end. This "spanning" language is conventionally used for airfoils (as in "wingspan") to indicate the functional length of the airfoil in a direction perpendicular to the normal flow of air over and under the airfoil.

Barresi clearly does not disclose or suggest any wing control handles positioned between the first and second ends of an airfoil. Rather, Barresi shows only control lines (64, 65, 66, 67) attached at the corners of the ram-air envelope.

Since any combination of the Bachmann and Barresi would lack the control-handles limitation of each of independent claims 1 and 14, the combination cannot render obvious these claims, nor claims 2-13 and 15-19 that depend therefrom.

Regarding items 2 and 3, these limitations essentially require that there be a flexible strap attaching each wing to a corresponding respective shoulder strap. Each of the Bachmann and Barresi devices lack such a flexible strap.

Bachmann shows only a pivoting, but otherwise rigid, engagement of ski hand grips (118, 118a) with corresponding respective torsion bar ends (92, 94). There is no flexible strap between either of the Bachmann wings and a respective shoulder strap, nor does Bachmann disclose or suggest attachment means for attaching such a strap to each wing and a shoulder strap. Barresi is completely silent on shoulder straps. Consequently, any combination of the Bachmann and Barresi patents would lack the flexible strap and attachment means limitations of independent claims 1 and 14 and, therefore, cannot render obvious these claims, nor claims 2-13 and 15-19 that depend therefrom.

Independent claim 25 requires at least the following limitations that are neither explicitly disclosed nor suggested by either of the Bachmann and Barresi patents:

1. at least one wing control handle positioned between the first and second ends of each wing; and
2. means for flexibly attaching the left and right wings to a user.

The fact that any combination of the Bachmann and Barresi patents lacks item 1 is addressed above in connection with claims 1 and 14. Because the combination lacks this limitation, it cannot render obvious claim 25, nor claims 26-30 that depend therefrom.

Regarding item 2, the only attachment between wings and a user disclosed or suggested by the Bachmann/Barresi combination is Bachmann's pivoting, but otherwise rigid, attachment of wing assemblies (38, 40) to user harness means (32). This attachment cannot reasonably be interpreted to be a means flexibly attaching the wings to a user. Except for the pivoting action of, the attachment of the Bachmann wings to the user must necessarily be as rigid as possible so that the user can reasonably manipulate and control the wings using handle means (124, 124a) that are located close to the user's body and would provide little leverage for controlling virtually any movement of the wing assemblies other than to adjust the attack angle of the wing panels. This is completely opposite the flexible nature of the attachment in claim 25. Furthermore, the 'pivoting action of the Bachmann wing assemblies cannot reasonably be equated to flexibility, which requires flexural action.

Barresi is completely silent on any sort of attachment means for attaching the ram-air envelope to a user. Indeed, it appears that Barresi discloses only handles that a user grasps when using the kite.

Since any combination of the Bachmann and Barresi patents lacks a means for flexibly attaching the wings to a user, the combination cannot render obvious claim 25, nor claims 26-30 that depend therefrom.

Independent claim 31 includes at least the following limitation that is not disclosed or suggested by any combination of the Bachmann and Barresi patents: a connector that connects the ram-air canopy to the user's harness and permits the ram-air canopy to be rotated about at least two mutually perpendicular axis relative to the harness when the harness is worn by the user.

Again, only Bachmann discloses any sort of user harness, particularly, harness means (32). Barresi is completely silent on a user harness. In this connection, the only type of connection between a user harness and a wing of a two-winged device disclosed or suggested is the pivot-only connection that allows the user to vary the attack angle of the two airfoils, i.e., the wing panel assemblies (34, 36). Therefore, at most it can be asserted that each of Bachmann's pivoting connections permits rotation about only a single axis parallel to the longitudinal axis of the airfoils.

Applicant believes it would be patently unreasonable to assert that it would be obvious to make the Bachmann wings pivotable (rotatable) about a second axis perpendicular to the

longitudinal axis of each airfoil, e.g., by using a hinge or ball joint between the wing assemblies and the harness. This assertion would be unreasonable because, as mentioned above, the user simply could not properly control the movement of the wing assemblies for any motion other than pivoting to vary the angle of attack due to the lack of leverage resulting from Bachmann's teaching that the user grasp and control the wing assemblies at a location close to his/her body.

Because any combination of the Bachmann and Barresi patents would lack the connector of claim 31, the combination cannot render obvious this claim, nor claims 32-34 that depend therefrom.

For at least the foregoing reasons, Applicant respectfully requests that the Examiner withdraw the present rejection.

Applicant reserves the right to argue the separate patentability of various dependent claims in future communications with the U.S. Patent and Trademark Office if necessary.

Other Reference

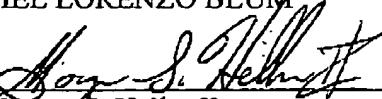
Applicant has reviewed the other references cited in the Notice of References Cited accompanying the present Office Action and believes that none of these references, alone or in combination with any other references of record, renders the present claims anticipated or obvious.

CONCLUSION

In view of the foregoing, Applicant submits that claims 1-19 and 25-34, as amended, are in condition for allowance. Therefore, prompt issuance of a Notice of Allowance is respectfully solicited. If any issues remain, the Examiner is encouraged to call the undersigned attorney at the number listed below.

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